UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,518	05/16/2001	Thinh D. Nguyen	7000-415	9758

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WITHROW & TERRANOVA, P.L.L.C.
P.O. BOX 1287
CARY, NC 27512

EXAMINER
AILES, BENJAMIN A

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr>
<td rowspan="2">Office Action Summary</td>
<td>Application No.
09/855,518</td>
<td>Applicant(s)
NGUYEN ET AL.</td>
<td></td>
</tr>
<tr>
<td>Examiner
Benjamin A Ailes</td>
<td>Art Unit
2142</td>
<td></td>
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</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 January 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3-12,18,19,21 and 22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1, 3-12, 18, 19, 21, and 22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 3, 4, 6-12, and 22 are rejected under 35 U.S.C. 102(b) as being

anticipated by Pettus (U.S. Patent Number 6,031,977), hereinafter referred to as Pettus.

3.   Regarding claims 1, 10 and 11, Pettus discloses a method of coordinating

access to a data network service comprising:

- Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and

  col. 11, line 64 - col. 12, line 4);

- Receiving a query for a requested data network service from a source (col. 10,

  lines 26-28), said query including required attributes of said requested data

  network service (col. 10, lines 28-32);

- Searching said registry to determine whether a given one of said plurality of

  service providers in said registry can provide said requested data network

  service have said required attributes (col. 10, line 24 and col. 11, lines 9-15); and

- If said given one of said plurality of service providers in said registry can provide

  said requested data network service having said required attributes, sending

  information identifying said given one of said plurality of service providers to said

  source of said query (col.15, lines 1-5);

- If none of said plurality of service providers in said registry can provide said requested data network service having said required attributes, selecting a remote directory service utility (col. 15, line 61 – col. 16, line 7);

- Sending a propagated query to said remote directory service utility (col. 15, line 61 – col. 16, line 7).

4. Regarding claim 3, in accordance with claim 1, Pettus discloses the method wherein said selecting the remote directory service utility comprsises consulting a summary of services available as said remote directory service utility...(col. 10, lines 47-52 and 56-60).

5. Regarding claim 4, in accordance with claim 1, Pettus discloses the method wherein selecting the remote directory service utility is based on a hierarchical relationship... (Fig. 7 and col. 11, lines 39-58).

6. Regarding claim 6, in accordance with claim 1, Pettus discloses the source of said query being a network connected device requiring said data network service (col. 10, lines 25-28).

7. Regarding claim 7, in accordance with claim 1, Pettus discloses a method wherein the source of said query is a directory service utility (col. 14, line 59 – col. 15, line 5).

8. Regarding claim 8, in accordance with claim 1, Pettus discloses a method further comprising:

- Receiving, from a particular service provider, a service description indicating attributes of a provided service (col. 11, line 64 – col. 12, line 16); and

- Adding said particular service provider to said registry (col. 11, line 64 – col. 12, line 4).

9. Regarding claim 9, Pettus discloses a directory service utility comprising:

- A registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);

- A processor for searching said registry... (col. 10, line 24, col. 11, lines 9-15, and col. 5, lines 22-24); and

A network interface for:

- Receiving a query for said requested data network... (col. 10, lines 26-32, and Fig. 4); and

- Sending information identifying... (col.15, lines 1-5 and Fig. 4).

- If none of said plurality of service providers in said registry can provide said requested data network service... (col. 15, line 61 – col. 16, line 7); and

- Sending a propagated query to said remote directory service utility (col. 15, line 61 – col. 16, line 7).

10. Regarding claim 12, Pettus discloses a method of coordinating access to a data network service comprising:

- Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);

- Receiving a propagated query for a requested data network service from a second directory service utilty... (col. 10, lines 26-32, and Fig. 4);

- Searching said registry to determine whether a given one of said plurality of service providers... (col. 10, line 24 and col. 11, lines 9-15);

- If said given one of said plurality of service providers in said registry can provide said requested data network service having said required attributes,

  o Extracting said source of said initial query... (col.14, lines 59-66);

  o Sending information identifying said given service provider... (col.15, lines 1-5).

11.   Regarding claim 22, Pettus discloses a method of coordinating access to a data network service comprising:

- Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);

- Receiving a query for a requested data network... (col. 10, lines 28-32);

- Searching said registry to determine whether a given one of said plurality of service providers... (col. 10, line 24 and col. 11, lines 9-15);

If none of said plurality of service providers in said registry can provide said requested data network service having said required attributes,

- Consulting a summary of services available... (col. 10, lines 47-52 and 56-60);

- Determining that said requested data network service is available... (col. 10, lines 47-52 and 56-60);

- Sending a propagated query to said particular remote directory service utility... (col. 16, lines 13-16).

Claim Rejections - 35 USC § 103

12.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

13.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus in

view of Hemphill et al. (U.S. Patent Number 6,167,448), hereinafter referred to as

Hemphill.

14.   Regarding claim 5, Pettus taught the invention substantially as claimed as noted

above. Pettus discloses the transmission of a query from client to server (Pettus, col.

10, lines 26-32), but does not expressly teach the use of the well known query language

used for message transmissions between a client and server, Extensible Markup

Language (XML). However, Hemphill does disclose the use of XML when sending

messages between a client and a server (see Abstract, col. 1, lines 46-52, and col. 8,

line 66 – col. 9, line 25). Therefore it would have been obvious to one of ordinary skill in

the art at the time of applicant's invention to utilize the XML language in order to send

queries from client to server when requesting data network service. One of ordinary

skill in the art would have been motivated to use the XML language because it is an

open standard in the computing industry and also because compatibility issues can be

resolved easily between clients and servers (see Hemphill, col. 9, lines 3-25).

15.   Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Pettus in view of Taylor (U.S. Patent Number 5,664,170), hereinafter referred to as

Taylor.

16.   Regarding claim 18, Pettus taught the invention substantially as claimed as noted

above. Pettus taught the use of developing relationships using a directory hierarchical

tree (col. 11, lines 24-37) but is silent on assigning specific nodes as parent nodes.

However, Taylor discloses the use of directory hierarchies (col. 2, lines 48-49) and

assigning network relationships between the nodes (col. 2, lines 55-64). Taylor also

discloses that in a hierarchy each node logically above another node is inherently the

designated parent node (col. 2, lines 55-64). One of ordinary skill in the art at the time

of applicant's invention would have found it obvious to implement the parent node

assignment method disclosed by Taylor in combination with the directory service utilities

disclosed by Pettus, which assigns nodes as "root" nodes in order to develop

relationships between separate directory service utilities (see Pettus, col. 11, lines 38-

57). It is for this reason that one of ordinary skill in the art would have been motivated

to combine methods of assigning parent nodes as disclosed by Taylor in combination

with the directory service utilities disclosed by Pettus.

17.   Regarding claim 19, Pettus discloses a method of service information

propagation at a first directory service utility comprising:

- Creating a summary of information about at least one service provider registered

    with said first directory service utility ...(col. 10, lines 47-52 and 56-60); and

- Sending said summary to a second directory service utility (col. 15, lines 6-18).

- Pettus taught the use of developing relationships using a directory hierarchical

    tree (col. 11, lines 24-37) but is silent on assigning specific nodes as parent

    nodes. However, Taylor discloses the use of directory hierarchies (col. 2, lines

48-49) and assigning network relationships between the nodes (col. 2, lines 55-64). Taylor also discloses that in a hierarchy each node logically above another node is inherently the designated parent node (col. 2, lines 55-64). One of ordinary skill in the art at the time of applicant's invention would have found it obvious to implement the parent node assignment method disclosed by Taylor in combination with the directory service utilities disclosed by Pettus, which assigns nodes as "root" nodes in order to develop relationships between separate directory service utilities (see Pettus, col. 11, lines 38-57). It is for this reason that one of ordinary skill in the art would have been motivated to combine methods of assigning parent nodes as disclosed by Taylor in combination with the directory tree of service utilities disclosed by Pettus.

18.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus in view of Taylor, and in further view of Aucsmith (U.S. Patent Number 5,701,464), hereinafter referred to as Aucsmith.

19.   Regarding claim 21, Pettus taught the invention substantially as claimed as noted above. Pettus taught the use of creating summary information (col. 10, lines 47-60), but does not utilize the use of a bloom filter. However, Aucsmith discloses the use of a bloom filter in order to check validity of information being transmitted between two points (see Abstract and col. 2, lines 3-19). One of ordinary skill in the art at the time of applicant's invention would have been motivated to use the bloom filter disclosed by Aucsmith in combination with the summary information creation method as disclosed by

Pettus in order to improve computer efficiency by speeding up computer processing

(see Aucsmith, col. 1, lines 49-67).

Response to Arguments\

20.   Applicant's arguments filed 14 January 2005 have been fully considered but they

are not persuasive. The amended claims do not overcome the rejections based on the

cited prior art.

21.   Applicant's arguments for claims 3, 9-12, and 22 discussed on pages 8 and 9 in

Amendment dated 14 January 2005 pertain to point (A) below.

22.   (A) Regarding claim 2, now amended claim 1, applicant argues that Pettus does

not show "if none of said plurality of service providers in said registry can provide said

requested data network service having said required attributes, selecting a remote

directory service utility; and sending a propagated query to said remote directory service

utility."

23.   As to point (A), the applicant's argument is not persuasive. Pettus clearly

discloses in column 15, line 61 – column 16, line 7 and column 16, lines 13-16 the

method of selecting remote directory service utilities and obtaining network service

attributes by searching underlying directory services and obtaining certain attributes, in

this example a network address. Queries requesting network information is disclosed

as communication links used to send and request reply data.

24.   (B) Regarding claim 4, applicant argues that Pettus does not disclose

"hierarchical relationship[s] between different directory service utilities."

25.   As to point (B), the applicant's argument is not persuasive. Pettus clearly

discloses in Figure 7 and col. 11, lines 39-58 the ability of having hierarchical

relationships between different directory service utilities. Hierarchical relationships are

maintained by use of a tree. In exemplary fig. 7, the tree has part 704 higher than 708

and part 702 higher than part 708.

26.   (C) Regarding claims 5 and 13, applicant argues "in combination, Pettus and

Hemphill do not teach the propagation of a query to a remote directory service utility..."

27.   As to point (C), the applicant's argument is not persuasive. Pettus clearly states

the use of sending queries to remote directory service utilities in order to request data

network service from a client in the abstract, col. 4, lines 14-20, and col. 10, lines 20-28.

The examiner does not depend on Hemphill for being able to send queries between a

client and a remote directory service utility. The examiner depends on Hemphill for the

ability to send queries using Extensible Markup Language (XML) between a server and

a client (col. 8, line 66-col. 9, line 25). The use of XML is deemed a standard language,

which is widely used in the computer networking industry (col. 9, lines 3-25).

28.   (D) Regarding claims 18 and 20, applicant argues, "...the motivation to combine

the references is [to] "develop relationships between separate directory service utilities."

The motivation is devoid of any evidence to support it."

29.   As to point (D), the applicant's argument is not persuasive. Pettus clearly states

the need and shows an example of developing relationships between separate directory

service utilities by way of a tree (see Pettus, Fig. 7) and an explanation of assigning

certain nodes as "root" nodes (col. 11, lines 24-58). The examiner depends on Taylor

for the ability to assign certain nodes as parent nodes in a hierarchical directory tree

(see Taylor, abstract and col. 2, lines 64). It should be noted that in computer

technology, when using a hierarchical tree, each node logically above another node is

the designated parent node (see Taylor, col. 2, lines 55-64).

30.   (E) Regarding claim 21, applicant argues "the motivation to combine Pettus and

Aucsmith is deficient...the motivation is "to improve computer efficiency." However,

there is no evidence to support this assertion."

31.   As to point (E), the applicant's argument is not persuasive. Clearly disclosed by

Aucsmith is the use of a bloom filter in order to improve computer processing speed,

which in one way improves overall computer effectiveness (see Aucsmith, abstract, and

col. 1, lines 49-67) . As noted above, Aucsmith discloses the use of a bloom filter in

order to check validity of information being transmitted between two points (see Abstract

and col. 2, lines 3-19) to prevent errors in the system. One of ordinary skill in the art

would have recognized the advantage of using a well known error checking method, in

this case the use of a bloom filter when creating summary information for service

providers.

32.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

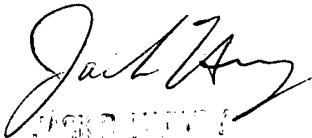shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Benjamin A Ailes whose telephone number is (571)272-

3899. The examiner can normally be reached on M-F 7:30-5, First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack B Harvey can be reached on (571)272-3896. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin Ailes
Art Unit 2142
Patent Examiner